

§817.13

the person who conducts underground mining activities and the identification number of the current regulatory program permit authorizing underground mining activities.

(3) Signs shall be retained and maintained until after the release of all bonds for the permit area.

(d) *Perimeter markers.* Each person who conducts underground mining activities shall clearly mark the perimeter of all areas affected by surface operations or facilities before beginning mining activities.

(e) *Buffer zone markers.* Buffer zones required by §817.57 shall be clearly marked to prevent disturbance by surface operations and facilities.

(f) *Topsoil markers.* Where topsoil or other vegetation-supporting material is segregated and stockpiled as required under §817.22, the stockpiled material shall be clearly marked.

[44 FR 15422, Mar. 13, 1979, as amended at 48 FR 9809, Mar. 8, 1983; 48 FR 44781, Sept. 30, 1983]

§817.13 Casing and sealing of exposed underground openings: General requirements.

Each exploration hole, other drillhole or borehole, shaft, well, or other exposed underground opening shall be cased, lined, or otherwise managed as approved by the regulatory authority to prevent acid or other toxic drainage from entering ground and surface waters, to minimize disturbance to the prevailing hydrologic balance and to ensure the safety of people, livestock, fish and wildlife, and machinery in the permit area and adjacent area. Each exploration hole, drill hole or borehole or well that is uncovered or exposed by mining activities within the permit area shall be permanently closed, unless approved for water monitoring or otherwise managed in a manner approved by the regulatory authority. Use of a drilled hole or monitoring well as a water well must meet the provisions of §817.41 of this part. This section does not apply to holes drilled and used for blasting, in the area affected by surface operations.

[44 FR 15422, Mar. 13, 1979, as amended at 48 FR 14822, Apr. 5, 1983; 48 FR 43992, Sept. 26, 1983]

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§817.14 Casing and sealing of underground openings: Temporary.

(a) Each mine entry which is temporarily inactive, but has a further projected useful service under the approved permit application, shall be protected by barricades or other covering devices, fenced, and posted with signs, to prevent access into the entry and to identify the hazardous nature of the opening. These devices shall be periodically inspected and maintained in good operating condition by the person who conducts the underground mining activities.

(b) Each exploration hole, other drill hole or borehole, shaft, well, and other exposed underground opening which has been identified in the approved permit application for use to return underground development waste, coal processing waste or water to underground workings, or to be used to monitor ground water conditions, shall be temporarily sealed until actual use.

§817.15 Casing and sealing of underground openings: Permanent.

When no longer needed for monitoring or other use approved by the regulatory authority upon a finding of no adverse environmental or health and safety effects, or unless approved for transfer as a water well under §817.41, each shaft, drift, adit, tunnel, exploratory hole, entryway or other opening to the surface from underground shall be capped, sealed, backfilled, or otherwise properly managed, as required by the regulatory authority in accordance with §817.13 and consistent with 30 CFR 75.1771. Permanent closure measures shall be designed to prevent access to the mine workings by people, livestock, fish and wildlife, machinery and to keep acid or other toxic drainage from entering ground or surface waters.

[44 FR 15422, Mar. 13, 1979, as amended at 48 FR 43992, Sept. 26, 1983]

§817.22 Topsoil and subsoil.

(a) *Removal.* (1)(i) All topsoil shall be removed as a separate layer from the area to be disturbed, and segregated.

(ii) Where the topsoil is of insufficient quantity or of poor quality for sustaining vegetation, the materials

approved by the regulatory authority in accordance with paragraph (b) of this section shall be removed as a separate layer from the area to be disturbed, and segregated.

(2) If topsoil is less than 6 inches thick, the operator may remove the topsoil and the unconsolidated materials immediately below the topsoil and treat the mixture as topsoil.

(3) The regulatory authority may choose not to require the removal of topsoil for minor disturbances which—

(i) Occur at the site of small structures, such as power poles, signs, or fence lines; or

(ii) Will not destroy the existing vegetation and will not cause erosion.

(4) *Timing.* All materials to be removed under this section shall be removed after the vegetative cover that would interfere with its salvage is cleared from the area to be disturbed, but before any drilling, blasting, mining, or other surface disturbance takes place.

(b) *Substitutes and supplements.* Selected overburden materials may be substituted for, or used as a supplement to, topsoil if the operator demonstrates to the regulatory authority that the resulting soil medium is equal to, or more suitable for sustaining vegetation than, the existing topsoil, and the resulting soil medium is the best available in the permit area to support revegetation.

(c) *Storage.* (1) Materials removed under Paragraph (a) of this section shall be segregated and stockpiled when it is impractical to redistribute such materials promptly on regraded areas.

(2) Stockpiled materials shall—

(i) Be selectively placed on a stable site within the permit area;

(ii) Be protected from contaminants and unnecessary compaction that would interfere with revegetation;

(iii) Be protected from wind and water erosion through prompt establishment and maintenance of an effective, quick growing vegetative cover or through other measures approved by the regulatory authority; and

(iv) Not be moved until required for redistribution unless approved by the regulatory authority.

(3) Where long-term surface disturbances will result from facilities such as support facilities and preparation plants and where stockpiling of materials removed under paragraph (a)(1) of this section would be detrimental to the quality or quantity of those materials, the regulatory authority may approve the temporary distribution of the soil materials so removed to an approved site within the permit area to enhance the current use of that site until needed for later reclamation, provided that—

(i) Such action will not permanently diminish the capability of the topsoil of the host site; and

(ii) The material will be retained in a condition more suitable for redistribution than if stockpiled.

(d) *Redistribution.* (1) Topsoil materials removed under paragraph (a) of this section shall be redistributed in a manner that—

(i) Achieves an approximately uniform, stable thickness consistent with the approved postmining land use, contours, and surface-water drainage systems;

(ii) Prevents excess compaction of the materials; and

(iii) Protects the materials from wind and water erosion before and after seeding and planting.

(2) Before redistribution of the material removed under paragraph (a) of this section, the regraded land shall be treated if necessary to reduce potential slippage of the redistributed material and to promote root penetration. If no harm will be caused to the redistributed material and reestablished vegetation, such treatment may be conducted after such material is replaced.

(3) The regulatory authority may choose not to require the redistribution of topsoil or topsoil substitutes on the approved postmining embankments of permanent impoundments or of roads if it determines that—

(i) Placement of topsoil or topsoil substitutes on such embankments is inconsistent with the requirement to use the best technology currently available to prevent sedimentation, and

(ii) Such embankments will be otherwise stabilized.

(4) *Nutrients and soil amendments.* Nutrients and soil amendments shall be applied to the initially redistributed material when necessary to establish the vegetative cover.

(e) *Subsoil segregation.* The regulatory authority may require that the B horizon, C horizon, or other underlying strata, or portions thereof, be removed and segregated, stockpiled, and redistributed as subsoil in accordance with the requirements of paragraphs (c) and (d) of this section if it finds that such subsoil layers are necessary to comply with the revegetation requirements of §§ 817.111, 817.113, 817.114, and 817.116 of this chapter.

[48 FR 22101, May 16, 1983]

§ 817.41 Hydrologic-balance protection.

(a) *General.* All underground mining and reclamation activities shall be conducted to minimize disturbance of the hydrologic balance within the permit and adjacent areas, to prevent material damage to the hydrologic balance outside the permit area, and to support approved postmining land uses in accordance with the terms and conditions of the approved permit and the performance standards of this part. The regulatory authority may require additional preventative, remedial, or monitoring measures to assure that material damage to the hydrologic balance outside the permit area is prevented. Mining and reclamation practices that minimize water pollution and changes in flow shall be used in preference to water treatment.

(b) *Ground-water protection.* In order to protect the hydrologic balance underground mining activities shall be conducted according to the plan approved under § 784.14(g) of this chapter and the following.

(1) Ground-water quality shall be protected by handling earth materials and runoff in a manner that minimizes acidic, toxic, or other harmful infiltration to ground-water systems and by managing excavations and other disturbances to prevent or control the discharge of pollutants into the ground water.

(c) *Ground-water monitoring.* (1) Ground-water monitoring shall be conducted according to the ground-water

monitoring plan approved under § 784.14(h) of this chapter. The regulatory authority may require additional monitoring when necessary.

(2) Ground-water monitoring data shall be submitted every 3 months to the regulatory authority or more frequently as prescribed by the regulatory authority. Monitoring reports shall include analytical results from each sample taken during the reporting period. When the analysis of any ground-water sample indicates noncompliance with the permit conditions, then the operator shall promptly notify the regulatory authority and immediately take the actions provided for in §§ 773.17(e) and 784.14(g) of this chapter.

(3) Ground-water monitoring shall proceed through mining and continue during reclamation until bond release. Consistent with the procedures of § 774.13 of this chapter, the regulatory authority may modify the monitoring requirements including the parameters covered and the sampling frequency if the operator demonstrates, using the monitoring data obtained under this paragraph, that—

(i) The operation has minimized disturbance to the prevailing hydrologic balance in the permit and adjacent areas and prevented material damage to the hydrologic balance outside the permit area; water quantity and quality are suitable to support approved postmining land uses; or

(ii) Monitoring is no longer necessary to achieve the purposes set forth in the monitoring plan approved under § 784.14(h) of this chapter.

(4) Equipment, structures, and other devices used in conjunction with monitoring the quality and quantity of ground water onsite and offsite shall be properly installed, maintained, and operated and shall be removed by the operator when no longer needed.

(d) *Surface-water protection.* In order to protect the hydrologic balance, underground mining activities shall be conducted according to the plan approved under § 784.14(g) of this chapter, and the following:

(1) Surface-water quality shall be protected by handling earth materials, ground-water discharges, and runoff in